optionally substituted carbocyclyl, optionally substituted heterocyclyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted acyl, optionally substituted sulfonyl,  $-OR^a$ ,  $-N(R^b)_2$ , or  $-SR^a$ ;

each instance of R<sup>a</sup> is independently hydrogen, optionally substituted acyl, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkenyl, optionally substituted alkenyl, optionally substituted carbocyclyl, optionally substituted heterocyclyl, optionally substituted aryl, optionally substituted heteroaryl, an oxygen protecting group when attached to an oxygen atom, or a sulfur protecting group when attached to a sulfur atom;

each instance of R<sup>b</sup> is independently hydrogen, optionally substituted acyl, optionally substituted alkyl, optionally substituted alkynyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocyclyl, optionally substituted aryl, optionally substituted heteroaryl, or a nitrogen protecting group; or optionally two R<sup>b</sup> are joined together with the intervening atoms to form optionally substituted heterocyclyl or optionally substituted heteroaryl;

R<sup>4</sup> is hydrogen, optionally substituted alkyl, or a nitrogen protecting group;

R<sup>6</sup> is hydrogen, optionally substituted alkyl, or a nitrogen protecting group;

 $\ensuremath{R^5}$  is hydrogen, optionally substituted alkyl, or a nitrogen protecting group; and

n is 0, 1, 2, 3, 4, or 5.

3. The compound of claim 1 or 2, wherein Ring Y is thiophenyl, isothiazolyl, or thiazolyl.

**4**. The compound of claim **1**, wherein the compound is of the formula:

$$\mathbb{R}^{6}$$
 $\mathbb{R}^{4}$ 
 $\mathbb{R}^{5}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{5}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{5}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{5}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{6}$ 
 $\mathbb{R}^{7}$ 
 $\mathbb{R}^{7}$ 

-continued 
$$OR^2$$
 $R^4$ 
 $R^4$ 
 $R^4$ 
 $R^5$ 

or a pharmaceutically acceptable salt, solvate, hydrate, polymorph, co-crystal, tautomer, stereoisomer, isotopically labeled derivative, or prodrug thereof.

5. The compound of claim 2 or 3, wherein the compound is of the formula:

or a pharmaceutically acceptable salt, solvate, hydrate, polymorph, co-crystal, tautomer, stereoisomer, isotopically labeled derivative, or prodrug thereof.